

What is claimed is:

1. In a compound archery bow comprising a handle-providing rigid riser with opposite ends, flexible limbs having inner ends secured to the riser and outer ends mounting bow string accommodating revolvable pulley members with bow string tracks on lateral axes of revolution, and a vertically extending bow string trained around said members, the improvement wherein:

said revolvable members comprise at least one eccentric cam pulley and said tracks lie in the same front to rear vertical plane.

2. The bow of claim 1 wherein said riser has a hand grip provided thereon between said riser opposite ends, and said bow string lies in said vertical plane with said revolvable members and vertically bisects said handle grip.

3. The bow of claim 1 wherein said bow has a nocking point defined by an arrow rest on the riser which is substantially vertically centered on said bow relative to said revolvable member axes.

4.           The bow of claim 1 wherein said riser has a portion with a hand grip mounting lateral recess on one side thereof between said riser ends and said hand grip has an offset recess sized to receive said riser portion and defining a marginal leg portion received in said riser portion mounting recess, said offset being such as to dispose the hand grip vertically centered in said plane.

5.           In a compound archery bow comprising a handle-providing rigid riser with opposite ends, flexible limbs having inner ends secured to the riser and outer ends mounting bow string accommodating revolvable members, and a vertically extending bow string trained around said members, the improvement wherein:

          (a) said riser has opposite ends and a limb seat is provide on each of said riser opposite ends, each said limb seat having a bottom wall, upstanding side walls, and an upstanding end wall opposite an opposed open end for receiving said inner end of one of said limbs;

(b) a limb cup for each of said seats formed of a vibration damping material and having a bottom wall, upstanding side walls, and an upstanding end wall opposite an opposed open end for receiving said inner end of one of said limbs, said cup being received in said limb seat with said cup end wall adjacent said seat end wall and said side walls adjacent said side walls of said seat;

(c) the inner end of each limb having an end wall and side walls and being received in said limb cup with its end wall adjacent said limb cup end wall and said limb side walls adjacent said cup side walls; and

(d) a fastener assembly extending through said limb, cup, and seat at each end of said riser to secure said limb inner end to said riser at each end thereof.

6. The bow of claim 5 wherein said limb inner ends have openings and said cups have bosses received therein to locate said inner ends of said limbs with respect to said upstanding end walls of said cups and to restrict endwise movement of said limb inner ends in said limb cups.

7.           The bow of claim 6 wherein said limb cup bottom walls are provided with a rocking member protruding therefrom at a spaced distance outwardly from said fastener assembly and each limb seat has a bearing recess within which said rocking member is received to permit relative rocking movement of said limb cup relative to said limb seat during adjustment of said fastener assembly to change the angle of extension of said limbs from said riser.

8.           The bow of claim 7 wherein said bosses and rocking members are integrated and formed of a more rigid yieldable material than said limb cups and openings in said bottom walls of said limb cups receive said bosses to anchor said rocking members.

9.           The bow of claim 5 wherein said bottom walls of said cups have cutouts and plates of a more elastic material than said cups are received therein to lie in engagement with said inner ends of said limbs.

10.          The bow of claim 5 wherein said limbs at their inner ends have open ended slots through which said fastener assemblies extend and openings at their outer ends for securing said revolvable members, there

being torsion resisting portions between said slots and said openings.

11.           The bow of claim 5 wherein a laterally disposed damping member is provided in each riser end and said fastener assembly extends to adjustably anchor to said damping member.

12.           In a compound archery bow comprising a handle-providing rigid riser with opposite ends, flexible limbs having inner ends secured to the riser and outer ends mounting bow string accommodating revolvable members, and a vertically extending bow string trained around said members, the improvement wherein interconnection mechanism between one of said limbs and said riser at each end of said riser includes:

(a)   a damper carried by each said riser end inboard of a limb seat on said riser for receiving a limb inner end;

(b)   a resilient limb vibration damping receptor for each said limb seat situated between said limb seat and limb inner end and including wall

portions for engaging the bottom, side walls and inner end wall of each limb; and

(c) a fastener extending through each said limb receptor, and limb seat and securing said limb to said damper and thereby to said riser.

13. The bow of claim 12 wherein each fastener comprises a bolt having a threaded shank and each damper has an opening threadably receiving said shank, there being elongate slots in each said limb inner end, receptor, riser seat and riser permitting angular adjustment of each limb relative to the riser with adjustment of said bolt.

14. The bow of claim 13 wherein said bolt has a head and a resilient damper washer bearing on said limb, and said dampers comprise bodies with ends which protrude from said riser at each end, there being a resilient sleeve with an opening passing said bolt shank incorporated as part of each said riser damper and resilient caps for each said cylinder ends secured thereon to engage said riser.

15. The bow of claim 13 wherein said bolt has a head and a resilient damper washer bearing on said limb

and said dampers comprise bodies formed of a vibration dampen 8 material having exposed end walls with openings therein, and resilient caps having securing projections thereon received in said block and wall openings, for the exposed end walls of each said cylinder ends secured thereon to engage said riser.

16.           A method of making a compound archery bow comprising a handle-providing rigid riser with opposite ends, flexible limbs having inner ends secured to the riser and outer ends mounting bow string accommodating revolvable members, and a vertically extending bow string trained around said members, comprising;

              (a)   providing a damper body carried by each said riser inner end inboard of a limb seat on said riser end;

              (b)   providing a resilient limb vibration damping limb cup for each said limb seat situated between said limb seat and limb inner end and including portions for engaging the bottom, side walls and inner end wall of each limb; and

              (c)   extending a fastening mechanism from each limb through said limb cup, and limb seat to

anchor to said damper body and secure said limb to said damper body and thereby to said riser.

17.           The method of claim 16 comprising providing each fastener as a bolt having a threaded shank and each damper with a threaded opening for threadably receiving said shank, providing elongate slots in said limb inner ends, cups, riser seats and riser permitting angular adjustment of said limbs relative to the riser with adjustment of said bolts, and threading said bolt shanks into said damper openings.

18.           The method of claim 17 comprising providing a rocker and rocker socket interconnection between each limb cup and limb seat.